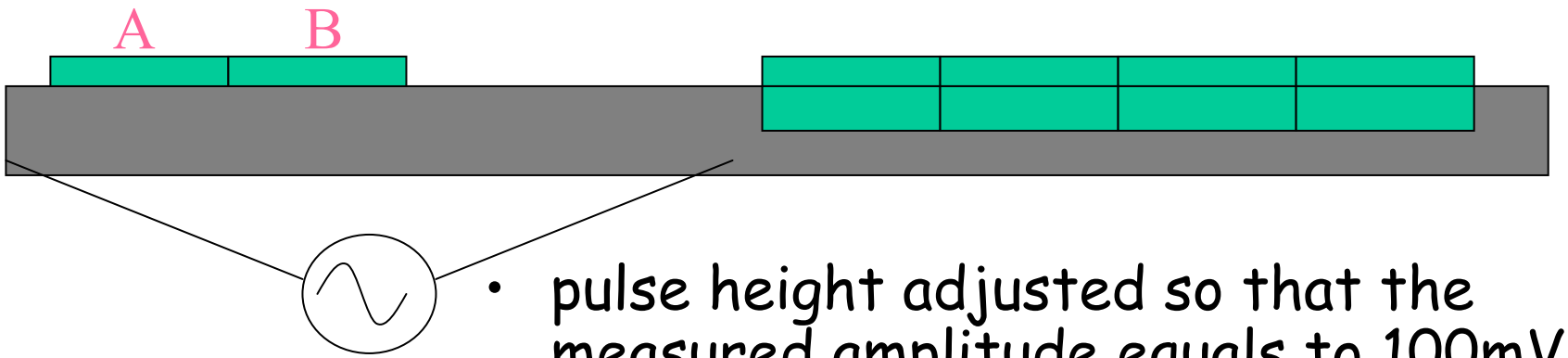
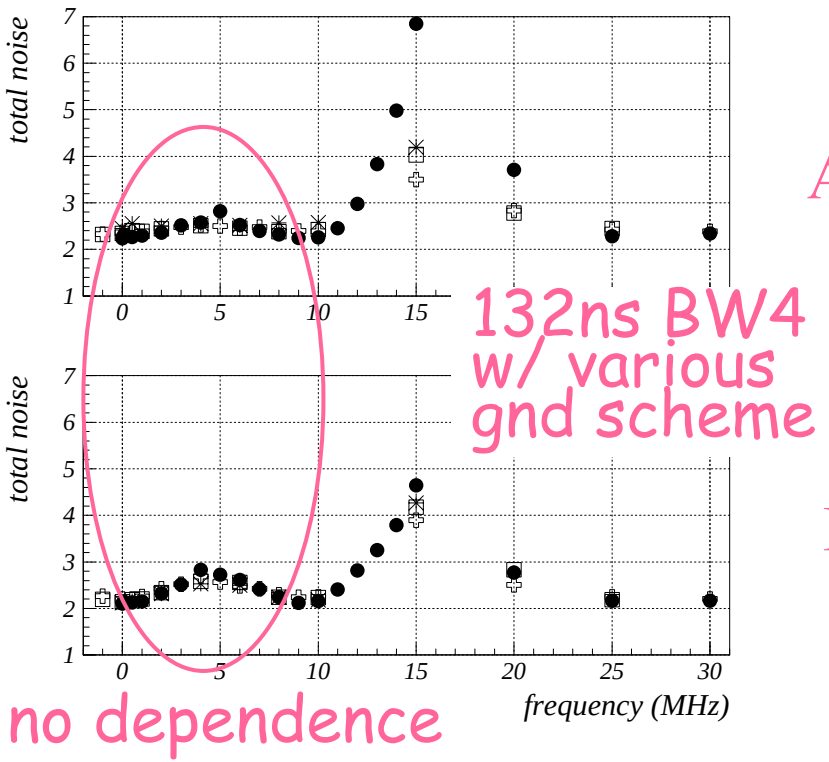
Noise study using pulse generator



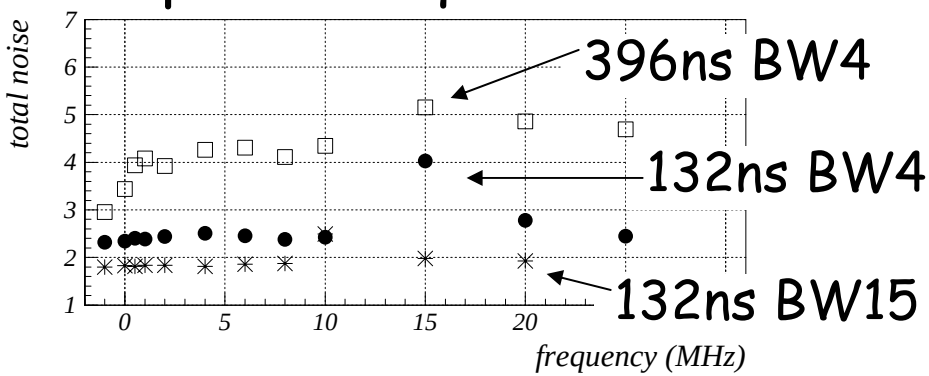
- pulse height adjusted so that the measured amplitude equals to 100mV



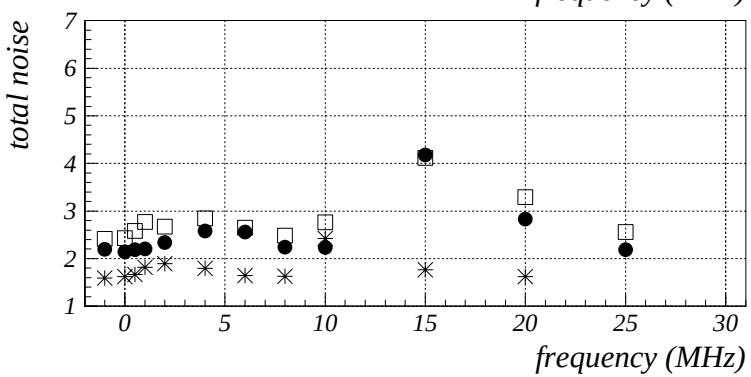
132ns BW4 w/ various gnd scheme

no dependence

A



B

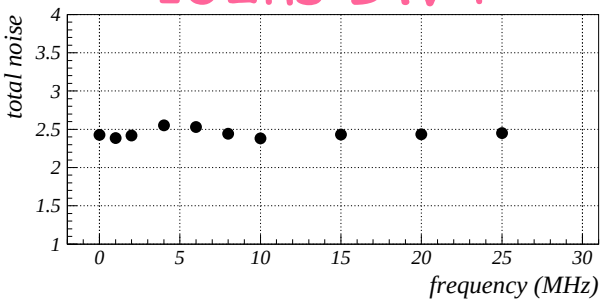


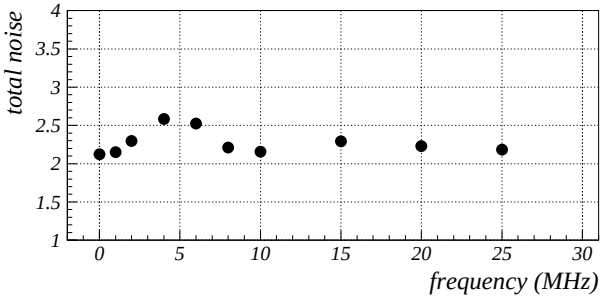
Comments on previous measurements

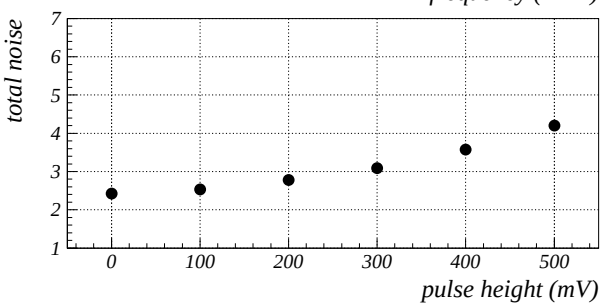
- The output level of the pulse generator was not constant at all
  - needs very high output (>200 mV) to have 100mV measured height at ~16MHz and ~45MHz
  - this resonance like behavior was removed by replacing the long (16ns?) cables to short (3ns) cables ← according to Marvin, it may be due to non-perfect impedance matching and overlaid waves
- Noise comes from a potential source most of the time, not from a voltage source
- Repeat the measurement with fixed output (100mV), plus short cables

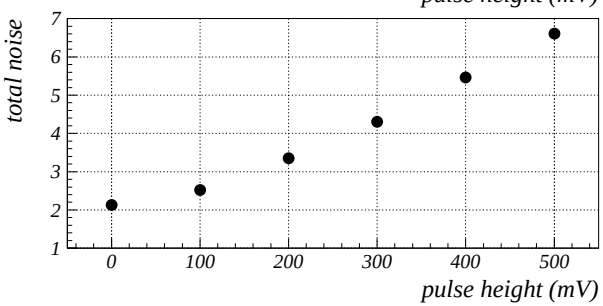
New result

132ns BW4

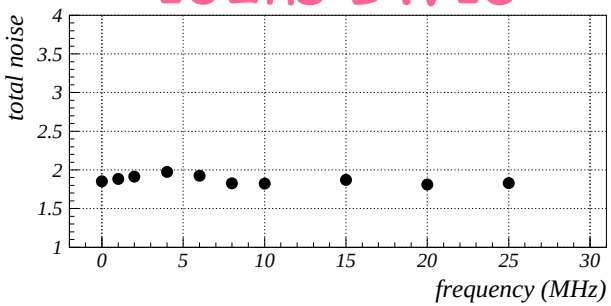


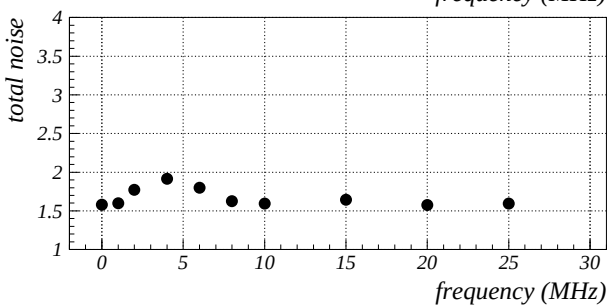




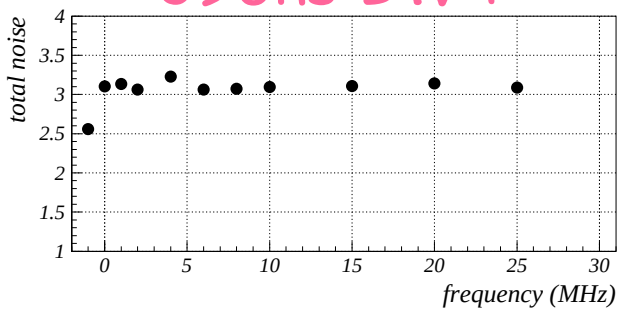


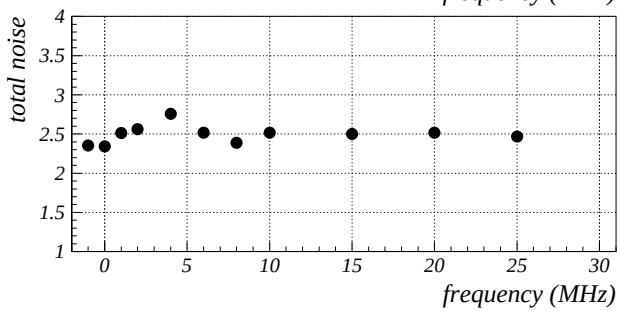
132ns BW15





396ns BW4





- Pickup noise most significant at ~4MHz for any configurations
- Amplitude dependence almost linear with offset
- Module B is more sensitive